

QUERCUS DISCRETA LAUGHLIN

Hibrida nova

Quercus shumardii X *velutina*

Kendall Laughlin (1890-)
165 Pine Ave., Chicago, Ill.

A tree 61 cm. in diameter and 12 m. tall with stout limbs slightly ascending. Bark dark grayish brown, rather thin, with shallow concave vertical ridges about 2.5 cm. wide. Season's branchlets glabrous, brown with white lenticels, mottled with gray in later years. Terminal winter buds 6-8 mm. long, conic, slightly angled, acute, reddish brown, puberulous.

Leaf blades 7-14 cm. long, 5-11.5 cm. wide, glabrous, rather lustrous and olive green above, slightly paler beneath and glabrous except for small tufts of rusty tomentum in the axils of the pale yellow midrib, obovate in peripheral outline, deeply divided into 3 pairs of lateral lobes extending more than halfway to the midrib and separated by elliptic sinuses; the lower lobes acute, with or without a lateral tooth on the proximal side; the middle lobes of constant width with a 3-toothed apex and 2 lateral teeth; the upper lobes the widest, broadening, with a 3-toothed apex and a lower 2-toothed lobule and a primary vein making an angle of about 45° with the midrib; the terminal lobe up to 6.5 cm. wide, trilobate, divided into 2 often enlarged 2-4-toothed lateral lobes, the apex 3-5-toothed. Base truncate or nearly so.

Petioles 2-3.5 cm. long, subterete but narrowly flattened on their upper surface, glabrous, pale yellow green.

Acorns solitary or paired, 19-22 mm. long; cup hemispheric-cup-shaped, 11-12 mm. high, 18-21 mm. wide, covered with thin appressed lanceolate glabrous scales, light gray with a conspicuous brown border, extending below the rounded base of the cup for a distance of 4-5 mm. over the torus to its connection with the short peduncle; nut greenish brown or occasionally yellowish brown, oblong, 17-18 mm. long, 14-16 mm. wide, two-fifths enclosed in the cup, puberulous at the apex and under the cup and sparingly so elsewhere.

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Arbor 61 cm. diametro et 12 m. alta cum leviter ascendentibus pinguibus membris. Cortex fuscus cinereo-brunneus, tenuior, vadosis concavis ad perpendicularum directis fastigiis circa 2.5 cm. latis. Novi temporis ramuli glabri, brunnei albis lenticellis, vetustioribus annis cinereo maculosi. Extremae hiemis gemmae 6-8 mm. longae, turbinatae, leviter angulatae, acutae, rufo-brunneae, puberulentes.

Folia 7-14 cm. longa, 5-11.5 cm. lata, supra glabra, lucidiora olivariaque, subtus leviter pallidiora et glabra praeter parvis cristis rubiginosi tomenti in axillis pallidae galbinae costae mediae, obovata circumcurrente adumbratione, alte divisa in 3 lobos lateralis utroque latere extendentis plus quam dimidio ad costam mediam et separatos ellipticis sinibus; lobi humiliores acuti cum aut sine laterali dente in proximali latere; lobi medii constantis latitudinis apice ter dentato et 2 lateralibus dentibus; lobi superiores latissimi dilatantes apice ter dentato et humiliore lobulo bis dentato et nervo principali faciente angulum circa 45° cum costa media; lobus extremus tenuis 6.5 cm. latus trilobatus divisus in 2 saepe ampliatis 2-4-dentatos lateralis lobos, apice 3-5-dentato. Basis truncata vel fere ita.

Petioli 2-3.5 cm. longi, prope rotundi sed in superficie anguste complanati, glabri, pallidi galbini.

Glandes solae aut compositae, 19-22 mm. longae; cupula hemisphaerica-poculoformis, 11-12 mm. alta, 18-21 mm. lata, tecta cum tenuibus adpressis lanceolatis glabris squamis pallidis cinereis notabili brunneo margine extendentibus sub rotunda base cupulae 4-5 mm. super toro ad juncturam cum pedunculo brevi; nux viridi-brunnea aut interdum fulva, oblonga, 17-18 mm. longa, 14-16 mm. lata, duobus-quintis conclusa in cupula, puberulens in apice et sub cupula et parce ita alibi.

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This tree, 24 inches in diameter, 6 feet 4 inches in circumference and 41 feet tall, is located in the eastern part of Swope Park, Kansas City, Missouri, at the east edge of the upland of Golf Course No. 1 overlooking Wild Cat Hollow and at the west edge of a truck trail bordering the golf course, about four hundred feet west of the Kansas City Southern Railway at about 69th Street. It was struck by lightning long ago and ripped from top to bottom and its leader was killed. It has escaped destruction by woodchoppers because it is at the edge of the golf course. There are some Black Oaks about 125 feet to the west and

there used to be a Shumard Oak on a ridge beyond. In the original landscape there may have been other hybrids to the westward, destroyed in making the golf course. Thousands of Oaks in Swope Park have been wantonly destroyed by contractors, workers and political hirelings of the Kansas City Park Board, which recognizes no policy of preservation or conservation.

The leaves of discreta look like shumardii in their shape and truncate base. They differ in having smaller tufts of tomentum and shorter petioles.

The winter buds of discreta are like shumardii. The only evidence of velutina ancestry is their puberulence.

The acorns of discreta are different from any species. They are shaped like velutina, but the cup-scales are closely appressed. The nuts also resemble velutina but are never striate. The discrete, dark bordered scales are uniquely distinctive and the most remarkable character of this taxon.¹ These scales extend down over the torus. This character never appears in shumardii and is only slightly developed in velutina.

The combination of characters described above makes it hypothetically certain that discreta is a hybrid of shumardii and velutina. Ernest J. Palmer has examined specimen material and has concurred in this conclusion, modified, however, by his opinion that the Shumard parent is probably the variety schneckii.

The nearly smooth bark of this tree reminded me of W. W. Ashe's description of leiodermis from a nearby locality (Elisha Mitchell Sci.Soc. Jour. 40:43). But the acorns of discreta are much larger than the length of 12-16 mm. given in Ashe's description. No one has found a tree that fits Ashe's description; and there seems to be no specimen material of leiodermis in existence.

Hybrids have been previously described between shumardii and six species, and between velutina and ten species. Both shumardii and velutina are found in sixteen states. The question may be asked, why has no hybrid of shumardii and velutina been discovered up to this time unless perchance there is a sterility barrier between them? I have noticed many peculiarities among the Erythrobalani in the Midwest. Rubra and velutina grow together over a wide range, but a hybrid between them is exceedingly rare. Ellipsoidalis usually grows with rubra but never hybridizes with it; on the other hand, ellipsoidalis hybridizes freely with velutina. Many hybrids of shumardii and palustris have been found in five counties of Missouri, but none have been found in the other ten states where both are sympatric. Imbricaria hybridizes rather freely with

rubra and velutina, tho it is placed in a different series. Velutina and marilandica hybridize freely. The insufficiency of field information about hybrid Oaks is indicated by the fact that there are about a hundred trees of bushii, leana and bebbiana in Forest Park in St. Louis, but not a single specimen from that park in the herbarium of the Arnold Arboretum is listed in E. J. Palmer's "Hybrid Oaks of North America" (A.A.J. 29:1).

Specimen material will be deposited in the Royal Botanic Gardens, Kew, England, and in the U.S. National Herbarium, Washington, D.C., by way of the U.S. Forest Service.

¹For an example of a hybrid of shumardii bearing cup-scales different from both parent species, see the silvery gray cup-scales of a form of mutabilis illustrated in the middle of page 378 of Volume 6 of PHYTOLOGIA.



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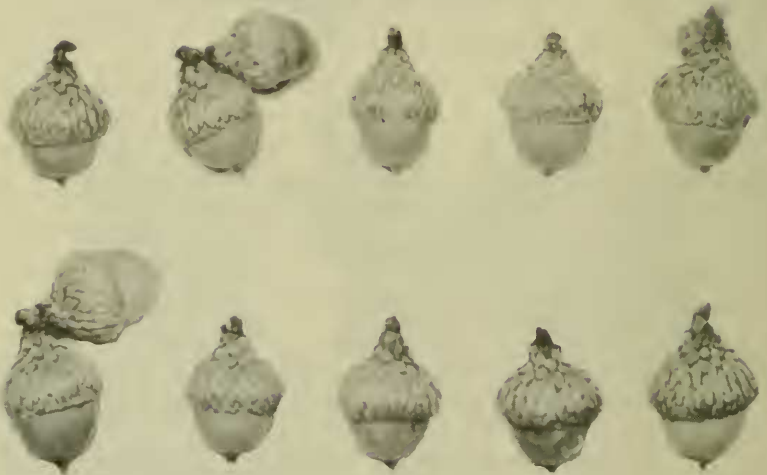
BARK OF
QUERCUS DISCRETABARK OF QUERCUS
SHUMARDII SCHNECKII
A tree near the
east bank of the
Blue River in
Swope Park



QUERCUS DISCRETA
23% of natural size



25% of natural size



69% of natural size

ACORNS OF QUERCUS DISCRETA